

REVISED

September 8, 2009

Mr. Jerald G. Head
Senior Vice President, Regulatory Affairs
GE Hitachi Nuclear Energy
3901 Castle Hayne Road MC A-18
Wilmington, NC 28401

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO. 370 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION

Dear Mr. Head:

By letter dated August 24, 2005, GE Hitachi Nuclear Energy submitted an application for final design approval and standard design certification of the economic simplified boiling water reactor (ESBWR) standard plant design pursuant to 10 CFR Part 52. The U.S. Nuclear Regulatory Commission (NRC) staff is performing a detailed review of this application to enable the staff to reach a conclusion on the safety of the proposed design.

The NRC staff has identified that additional information is needed to continue portions of the review. The staff's request for additional information (RAI) is contained in the enclosure to this letter.

If you have any questions or comments concerning this matter, you may contact me at 301-415-6590 or david.misenhimer@nrc.gov, or you may contact Amy Cubbage at 301-415-2875 or amy.cubbage@nrc.gov.

Sincerely,

/RA/

David Misenhimer, Project Manager
ESBWR/ABWR Projects Branch 1
Division of New Reactor Licensing
Office of New Reactors

Docket No. 52-010

Enclosure:
Request for Additional Information

cc: See next page

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ESBWR/ABWR Projects Branch 1
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Distribution: See next page

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SUBJECT: REQUEST FOR ADDITIONAL INFORMATION LETTER NO.370 RELATED TO
ESBWR DESIGN CERTIFICATION APPLICATION DATED
SEPTEMBER 8, 2009

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RAI Number	Reviewer	RAI Summary	RAI Text
17.4-23 Supplement 3 (MFN 09-560, August 24, 2009)	Hilsmeier T	Include in D-RAP ITAAC the SSCs identified as risk-significant under all RTNSS criteria	GEH stated in their response to NRC RAI 17.4-23 S02: "There are 2 elements within the scope of the D-RAP for the design certification: 1) all RTNSS SSCs, and 2) all risk-significant SSCs in Table 6 of NEDO-33411" As such, GEH revised DCD Tier 2 Section 17.4 to clarify that RTNSS SSCs and risk-significant SSCs are in the scope of D-RAP. GEH also replaced the occurrences of the phrase "risk-significant SSCs" with the phrase "SSCs in the scope of D-RAP" in Section 17.4, where appropriate. The staff found these revisions to be acceptable. However, GEH did not perform similar revisions (i.e., appropriately replacing the phrase "risk-significant SSCs" with "SSCs in the scope of D-RAP") in DCD Tier 1 Section 3.6 ("Design Reliability Assurance Program"). As a result, some SSCs in the scope of D-RAP may not be subjected to the D-RAP ITAAC. The staff requests that GEH perform similar revisions to DCD Tier 1 Section 3.6, including the ITAAC table, to ensure that the D-RAP ITAAC applies to all SSCs in the scope of D-RAP.
19.2-130	Fuller E	Calculate the overall CCFP for ESBWR and provide a discussion of each of the contributors	Calculate the overall conditional containment failure probability (CCFP) for the ESBWR. Present these results and describe the contributions from internal events at power, fires, floods, and high winds in the DCD, Tier 2, Chapter 19.
19.2-128	Lai J	Provide the technical details that support the conclusion concerning external flooding	Provide Internal Flooding at-Power Cutset Report and Importance Measure Report in ESBWR PRA Draft Rev. 5 (NEDO-33201 Draft Rev.5). Verify that the conclusion of significant core damage sequences of external event flood in ESBWR DCD Chapter 19, Section 19.2.3.2.2 is consistent with those from the Internal Flooding at-Power Cutset Report.
19.2-129	Pohida M.	Discrepancies between risk insights in provided in Chapter 12 of the PRA versus the DCD, Tier 2, Revision 6, Chapter 19, Table 19.2-3.	In Chapter 12 of the PRA, it states, "The following risk insight will be added into DCD, Tier 2, Chapter 19, in Table 19.2-3, which will require continuous fire watch is required for the following scenarios with breached fire barriers for maintenance activities:

			<ol style="list-style-type: none"> 1. The breaching of the fire doors between fire areas F1152 and F1162 (the reactor building fire areas that house RWCU pumps) and between fire areas F4250 and F4260 (the turbine building fire areas that house the RCCW pumps). 2. The simultaneously breaching of the multiple fire barriers that can open fire areas F3301 and F3302 (the N-DCIS room fire areas) to fire area F3100 (the corridor fire area) at the same time. 3. The simultaneously breaching of the multiple fire barriers that can open fire areas F5350 and F5360 (the PIP electric equipment room fire areas) to fire area F5100 (the corridor fire area) at the same time." <p>The risk insight in DCD, Tier 2, Revision 6, Chapter 19, Table 19.2-3 states, "During shutdown conditions, a continuous fire watch is required for the following scenarios with breached fire barriers for maintenance activities:</p> <ol style="list-style-type: none"> 1. The breaching of the fire door between fire areas F1152 and F1162 (the reactor building fire areas that house RWCU pumps). 2. The simultaneous breaching of multiple fire barriers that can open fire areas F3301 and F3302 (the N-DCIS room fire areas) to fire area F3100 (the corridor fire area) at the same time. 3. The simultaneous breaching of multiple fire barriers that can open fire areas F3301 and F3302 (the N-DCIS room fire areas) to fire area F3100 (the corridor fire area) at the same time." <p>There are discrepancies between what was stated in Chapter 12 of the PRA versus the DCD, Tier 2, Revision 6, Chapter 19, Table 19.2-3 for items 1 and 3. These items should be consistent.</p>
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(Revised 08/06/2009)

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